Matthias Eyassu
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Summary

- Driven software engineer with experience in building cutting-edge machine-learning models (PyTorch, TensorFlow, Scikit-learn) and modern web applications (React, Node.js, NestJS, MongoDB)
- Developed software for applications in supply chain optimization, bioinformatics/computational biology, identity verification, and facial expression analysis
- Team collaborator with an enthusiasm for building powerful and groundbreaking software

Professional Experience

Methuselah Foundation / **January 2023 – September 2023 (Contract)**
Consulting Software Engineer
- Developing a full-stack application with React, Node.js, NestJS, and MongoDB for processing biometric data and projecting health-related outcomes for users; writing in Typescript and Python, Git as VCS

IDEMIA / **June 2022 – November 2022**
Software Engineer I
- Developed software in proprietary C++-like language to improve the efficiency of machines running on credit card manufacturing factory floor along with other engineers
- Took the initiative to write a program to automate a time-consuming data processing task with Pandas

National Science Foundation REU Program / **June 2021 – September 2021**
Research Intern
- Developed a neural-network-based algorithm to analyze the facial expressions of ASL signers from video; used Python libraries (PyTorch, OpenPose, OpenCV, Pandas, numpy, scikit-learn)
- Presented the research at an undergraduate conference as a representative of my group

American University of Sharjah / **July 2020 – September 2020**
Software Development Intern
- Developed a RESTful API with the Spark framework, a Java library, to connect geospatial data from the Google Maps API to a decision engine managing a cold supply chain; unit testing with JUnit

Biomedical Imaging Laboratory / **April 2020 – September 2021**
Research Assistant
- Developed a data pipeline to generate/preprocess large datasets of synthetic organ models and deployed it on a UNIX high-power computing cluster (Argo cluster @ GMU); used Python and integrated VICTRE, an open-source C++ library developed by the FDA, into the pipeline for data generation
- Investigated the problem of instability and adversarial attacks in convolutional neural networks in the context of medical image analysis; used PyTorch, a Python deep learning library, and scikit-learn
- Co-authored a preprint on a state-of-the-art convolutional neural network for medical image reconstruction (provided training dataset): Dense Dilated U-Net: Deep Learning for 3D Photoacoustic Tomography Image Reconstruction. arXiv:2104.03130.

IDEMIA / **June 2019 – September 2019**
Software Development Intern
- Developed a USB driver to connect an Android and Windows device for an identity verification system using usb4java and Android Studio; this system has been deployed by the TSA in many airports
- Evaluated several potential system designs along with another intern and wrote reports on their fitness

Education

George Mason University / **September 2018 – December 2022**
Bachelor of Science in Computer Science, summa cum laude